



Chino Mines Company  
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Erika Schwender, Director  
New Mexico Environment Department  
Resource Protection Division  
P.O. Box 5469  
Santa Fe, New Mexico 87502



Dear Ms. Schwender:

**Re: Chino AOC Quarterly Report, Fourth Quarter 2013**

This Administrative Order on Consent (AOC) Quarterly Report documents activities performed during the reporting period from October 1 through December 31, 2013. The report is submitted and organized as outlined in Article IX, Section E of the AOC between the New Mexico Environment Department (NMED) and Freeport-McMoRan Chino Mines Company (Chino). Chino also submits a copy of this report to the New Mexico Energy, Mineral and Natural Resources Department, Mining and Minerals Division (MMD), per its request.

**AOC Activities**

During the fourth quarter of 2013, the following major activities occurred:

- Chino submitted a revised *Site-Specific Copper Toxicity Model Report* Smetler Tailing Soils (STS) Investigation Unit (IU) drainages to NMED Surface Water Quality Bureau.
- Chino performed bi-annual soil sampling as well as the vegetation survey to complete the five year review requirement for the STS IU pilot amendment study.
- Chino performed the annual soil pH monitoring sampling for the STS IU.
- Chino and NMED performed field sampling per the *Draft Phytotoxicity and Vegetation Community Study Work Plan* for STS IU.
- Chino continued the soil removal at the Razorback Ridge site under the STS IU as part of the Lake One Closure Project.
- Chino performed the fifth year of vegetation surveys of the Hurley Golf Course IRA site, under the STS IU, to determine if the site meets success criteria defined in the IRA completion report.
- Chino performed quarterly post-reclamation and remedial monitoring of the Groundhog Mine Site and the Historic Small Stockpiles under the Hanover/Whitewater Creeks Investigation Unit (HWC IU).
- Chino performed quarterly post-remediation monitoring of the Hurley Golf Course Site under the STS IU.
- The AOC Technical Group met and/or participated in conference calls on October 15<sup>th</sup>, November 25<sup>th</sup>, and December 17<sup>th</sup> to review the AOC monthly progress.
- The AOC Community Work Group toured HWC IU on November 2<sup>nd</sup>.

**Hanover/Whitewater Creeks Investigation Unit**

Following approval by NMED of the completion report for the Interim Remedial Action (IRA) at the Groundhog Mine Site, Chino has performed quarterly post-reclamation water quality, erosion, and

vegetation monitoring of the site since 2009. Chino submitted an addendum to the 2009 *Groundhog IRA Completion Report* for the remediation of the old pipeline corridor in 2011. Chino performed the annual vegetation survey in September 2013 and submitted the Groundhog Mine Site annual monitoring report on October 31, 2013 which also fulfilled the five year review of the site requirements necessary to meet success criteria.

Chino continues to perform quarterly post-reclamation water quality, erosion, and vegetation monitoring of the historical Osceolla, CB Bell, and Tenderfoot mine sites following approval by NMED of the IRA completion report. These survey results are included in the Groundhog Mine Site annual monitoring reports. Following Chino's submittal of the Star Rock Stockpile IRA Completion Report as part of the Historic Small Stockpiles earlier in 2011, the site is now also included in the quarterly monitoring program.

MMD has approved two extension requests by Chino under Permit GR009RE for the Lucky Bill Groundhog Mine No. 5 site since 2009 for completion of reclamation activities which will remain in effect until June 2014. This extension period is necessary for Chino to sequence the MMD reclamation process with the AOC. Additionally, NMED has requested in a letter dated February 23, 2011, that Chino continue annual monitoring of the stockpile toe well in order to obtain a more representative seepage samples, with the goal of demonstrating that stockpile seepage meets applicable groundwater quality standards. Drought conditions in 2011 and 2012 have prohibited sampling efforts until 2013's higher precipitation in which Chino was able to successfully collect seepage samples. Chino submitted these sampling results to NMED in a letter dated December 16, 2013.

The NMED completed and provided the revised *Draft Ecological Risk Assessment (ERA)* report to Chino and the public for review in the third quarter of 2012. Chino submitted comments on the revised draft ERA report in September 2012. The NMED responded to these comments in a letter dated April 19, 2013. Chino submitted a response document dated May 10, 2013. NMED presented the draft ERA at the January 21, 2014 Community Work Group (CWG) meeting, and anticipates providing the revised ERA during the first quarter of 2014.

#### Hurley Soils Investigation Unit

During the third and fourth quarter, Chino and NMED in partnership with EPA continued the outreach program to the eleven home owners in Hurley to determine renewed interest in participating in the yard remediation action. These eleven residences refused to participate in either the soil sampling or soil remediation program during the interim remedial action conducted in 2007 and 2008. Chino anticipates performing remediation at five of these residences during the second quarter of 2014 due to renewed interest from home owners in the outreach program. Chino will also mail out the annual health advisory to these 11 home owners as well as to owners to the adjacent properties in March 2014.

#### Lampbright Investigation Unit

NMED approved the revised *Remedial Investigation Report* in March 2012. Chino received the finalized LIU *Human Health Risk Assessment (HHRA) Work Plan* in July 2012 and the finalized HHRA in November 2012. NMED's risk assessor, Neptune, presented the HHRA for the Lampbright Investigation Unit (LIU) to the CWG in January 2013.

The NMED provided the *Draft LIU Ecological Risk Assessment* to Chino for informal review in March 2013. Chino commented on the draft ERA informally in early April 2013. NMED presented the draft ERA to the CWG at the May 2013 meeting and anticipates providing the final report to Chino and the public for review during the first quarter of 2014.

#### Smelter Tailings Soil Investigation Unit

Following submittal of the final completion report on the Golf Course IRA to NMED in 2009, Chino continues to perform quarterly post-remediation erosion and vegetation monitoring. These survey results

will be formally submitted to NMED in a cumulative report after five years of monitoring during the first quarter of 2014. The vegetation survey, performed in October 2013, meets the five year monitoring requirement to determine if the site meets success criteria defined in the completion report.

Chino conducted a second phase of the Golf Course IRA to address impacted soils in the vicinity of the railroad non-operational in 2012. Seeding and mulching of these 30 acres was completed at the end of March 2013. Chino submitted a supplemental completion report on May 29, 2013. NMED approved the report in a letter dated July 18, 2013.

During May 2013, Chino removed approximately 85 acres of copper impacted soils from Razorback Ridge and anticipates addressing the hillside slope to the east of Razorback Ridge during the first quarter of 2014, as part of the Lake One Closure Project. The excavated soils will be used as fill material for the Lake One Closure Project.

Historical tailing material located in the Apache Tejo drainage was incorporated into the STS IU by NMED in 2009. NMED requested that Chino submit an IRA work plan for Apache Tejo drainage system. Chino plans to submit a survey report and work plan after addressing site access issues.

The STS IU Pre-Feasibility Study Remedial Action Criteria (RAC) were established by NMED in letters dated September 16, 2010, and March 2, 2011. The following summarizes the activities that occurred in response to this letter:

- Following submittal of a feasibility study (FS) schedule during the fourth quarter of 2010, Chino finalized the FS work plan (proposal) in third quarter 2011. The following activities for the FS process occurred:
  - Chino completed survey and soil sampling requirements per the FS Appendix A and B field sampling plan during the fall of 2011.
  - Following the evaluation of the data resulting from the 2011 sampling programs, Chino submitted a *Draft Phytotoxicity and Vegetation Community Study Work Plan* to the NMED in late September 2013 for review. NMED provided condition approval of the work plan that allowed Chino to conduct seed collection and soil sampling/collection field events during the weeks of October 7<sup>th</sup> and 21<sup>st</sup>, respectively. Chino will submit final work plan to NMED in January 2014.
  - Chino anticipates submitting the draft FS in 2014, following incorporation of phytotoxicity study results and completion of the Razorback Ridge soils removal project.
  
- As part of the process to address RAC for surface water, Chino submitted two work plans in 2011: 1) *Application of the Hydrology Protocol to STS IU Drainages*; and 2) *Use Attainability for Stock Tanks*.
  - Following conditional approval of the hydrology protocol work plan by the NMED Surface Water Quality Bureau (SWQB), Chino performed field work for both of the plans during the summer of 2011.
  - Chino submitted the sampling results in the *Expedited Use Attainability Analysis (UAA): Application of NMED Hydrology Protocol to STS IU Drainages* in early 2012 and a revised UAA later in 2012 in response to SWQB comments.
  - The NMED SWQB issued a public notice for the Use Attainability Analysis (UAA) in January 2013 based on the revised HP report. The comment period ended February 14, 2013.
  - Chino revised the UAA based on comments received by SWQB and resubmitted the HP report on May 28, 2013.
  - The NMED SWQB submitted, pursuant to Subsection C, 20.6.4.15 NMAC, a request to the EPA for technical approval of the UAA in a letter dated June 26, 2013. EPA approval

- is pending.
- NMED commented on the *Use Attainability Analysis for Stock Tanks Work Plan* in a Notice of Disapproval letter dated June 30, 2011. Chino plans to respond to the comments when presenting the sampling results to the NMED.
  - Additionally, in support of the process to address RAC for surface water, Chino submitted for review to the NMED SWQB the *Development of Site-Specific Copper Criteria Work Plan for the STS IU* in August 2011.
    - Following the receipt of NMED comments on the copper criteria adjustment work plan, Chino performed the two phases of surface water sampling during the late summer of 2011.
    - Chino submitted an interim report on the *Development of Site-Specific Aquatic Life Criteria for Copper in STSIU Drainages* study in October 2012 and a revised report in April 2013 in response to comments received from SWQB in December.
    - Chino also submitted a *Draft Site-Specific Copper Toxicity Model Report* as defined in the interim report to the NMED in April 2013.
    - Chino met with the SWQB on June 10, 2013 to review and discuss both of the reports.
    - The NMED SWQB submitted responses on the toxicity model report to Chino in a letter dated July 1, 2013.
    - Chino submitted a revised *Site-Specific Copper Toxicity Model Report* in a letter dated October 3, 2013 and in response to the SWQB comments.
    - In an email communication dated October 31, 2013, NMED SWQB agreed with the revisions to the model report and that site specific criteria could be supported by this work.

Chino continues with inspection and sampling of the pilot amendment study area. The current activities associated with the study include:

- Chino submitted the fourth annual monitoring report on April 3, 2013. NMED approved the report in a letter dated April 25, 2013.
- Bi-annual soil sampling occurred the weeks of April 22, 2013 and October 21, 2013.
- Additionally, the five year vegetation survey was performed during the week of October 7, 2013.
- The annual monitoring data will be combined under the five year review report to be submitted in the first quarter of 2014.

As part of the amendment study process, Chino developed a work plan to monitor the effects to soil pH following its *White Rain Technical Memorandum* report that documented changes in the pH of the soils plots caused by a natural event that occurred in January 2008. NMED approved the "*White Rain*" *Soil pH Monitoring Plan* in July 2010. The current activities associated with the study are as follows:

- Following the fall sampling in 2012, Chino submitted the Year 3 Report in April 2013 and in response to comments from the NMED submitted a revised Year 3 Report in early May 2013.
- The NMED responded with an approval letter for the report dated May 16, 2013.
- The fourth year soil sampling of this five year study was completed during the week of October 21, 2013.
- Chino anticipates submitting the fourth year annual report in the first quarter of 2014.

#### Community Relations

The AOC Community Work Group (CWG) opted not to officially meet during the fourth quarter but did participate in a tour provided by Chino of the Hanover and Whitewater Creeks Investigation Unit on November 2, 2013 in anticipation of the IU ERA presentation planned for their next meeting. NMED also participated in the tour. The CWG met again on January 21, 2014.

Next Quarter's Scheduled Activities

The following work is projected for the first quarter of 2014:

- Submit a report combining the vegetation survey to complete the five year review requirement and the annual soil sampling results for the pilot amendment study under the STS IU.
- Submit the annual soil pH monitoring report for the STS IU.
- Submit the *Phytotoxicity and Vegetation Community Study Work Plan* for the STS IU.
- Submit a vegetation survey report of the Hurley Golf Course IRA site, under the STS IU.
- Submit the LIU Ecological Risk Assessment for Chino and public review.
- Submit for Chino and public review the revised *Draft Ecological Risk Assessment* for the HWC IU.
- Complete the soil removal of Razorback Ridge site under the STS IU as part of the Lake One Closure Project.
- Perform quarterly post-remediation monitoring of the Hurley Golf Course Site under the STS IU.
- Perform quarterly post-reclamation and remedial monitoring of the Groundhog Mine Site and the Historic Small Stockpile sites for the HWC IU.
- The AOC Technical Group will meet monthly.

Personnel Changes

There were no personnel changes during this quarter.

Problems and Solutions

There were no problems that adversely affected the AOC this quarter.

Please contact Ned Hall at (520) 393-2292 with any questions or comments concerning this report.

Sincerely,



Sherry Burt-Kested, Manager  
Environmental Services

SBK:pp  
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